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Unit-ToF4M

SKU:U172



Description

ToF4M Unit is a high-precision distance sensor module that utilizes the VL53L1CXV0FY/1 sensor and employs Time-of-Flight (ToF) technology. It is capable of measuring object height, detecting object presence, and tracking object movement within a range of 4cm to 400cm. It finds applications in robotics, autonomous vehicles, drones, security systems, and more.

ToF4M Unit offers exceptional accuracy, with measurements as precise as 0.1mm. This

level of accuracy enables it to detect even the smallest distance variations and capture surface details of objects. With its fast response time, ToF4M Unit can perform measurements within milliseconds. This real-time feedback of distance information makes it suitable for scenarios that require quick responsiveness.

ToF4M Unit communicates using the I2C protocol, providing advantages such as simplified connectivity, support for multi-master and multi-slave topologies, and high reliability. It can be easily integrated with existing sensor buses, effectively saving IO resources. The module features a standard Grove interface, ensuring reliable and stable signal transmission. When used with the M5Stack hardware ecosystem, it supports plug-and-play functionality, enabling rapid project development.

Features

- High accuracy: ToF4M Unit has a very high accuracy, up to 0.1 mm. The measuring distance is about 4 meters.
- Fast response time: ToF4M Unit has a fast response time and is able to complete a measurement in milliseconds.
- Multi-field applications: robots, autonomous vehicles, drones, security and other fields.
 Tasks such as measuring the height, presence, and movement of objects demonstrate its versatility.
- Programming platform: Arduino, UIFlow, etc.

Includes

• 1x ToF4M Unit

• 1x HY2.0-4P Cable (20cm)

Applications

 \circ robots

- automatic pilot
- \circ drone
- construction of security

Specification

Resources	Parameters
Sensor	VL53L1CXV0FY/1
Measurement range	4mm-4000mm
Resolution ratio	Millimeter scale
Measuring speed	Millisecond level
FoV	15-27°
Light source	Laser (ToF)
I ² C address	The default is 0x29

Operating temperature range	0°C to +40°C
Product Size	32*24*8mm
Package Size	136* 92*20mm
Product Weight	4.4g
Package Weight	8.8g



Related Link

• VL53L1CXV0FY/1

Schematic





The difference between M5 ToF4M Unit and M5 ToF Unit

	Soncok	Measuring	Addres	Ciro	Light
Unit Sensor	Distance	S	Size	source	
ToF4M	VL53L1	4mm-	0.20	32*24*8	Lacor
Unit	СХ	4000mm	UX29	mm	Lasei
		25mm-	0x29	32*24*8	
IOF UNIT	VL53LUX	1000mm		mm	Laser

PinMap

PORT A(RED)	SCL	SDA	VCC	GND
Core(Basic)	G22	G21	5V	GND
Core2	G33	G32	5V	GND
CoreS3	G1	G2	5V	GND

Module Size





Arduino

• UNIT-ToF4M Library

Video

• ToF4M application example